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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/050,186

01/18/2002

Chuck C. Xu

7626

7590

01/12/2005

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EXAMINER

BERMAN, SUSAN W

ART UNIT

PAPER NUMBER

1711

DATE MAILED: 01/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/050,186

Applicant(s)

XU ET AL.

Examiner

Susan W Berman

Art Unit

1711

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 November 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 3-24 is/are pending in the application.
- 4a) Of the above claim(s) 14-24 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 3-13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 January 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

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Response to Arguments

Blomquist et al teach that compositions comprising macromers having terminal acrylate moieties connected to a fluorinated alkylene or alkylene ether moiety by an ester group form optical components having a refractive index comparable to that of glass fiber waveguides, while also exhibiting very low absorption losses. Specifically Blomquist et al teach providing compositions that exhibit a more favorable range of viscosities and can be polymerized to form a waveguide material exhibiting low light absorption losses and a refractive index closer to the refractive index of a silica optical fiber (column 2, lines 36-48). Comparison of examples 1, 2 and 5 with Examples 3 and 4 shows that the mole ratio of OH groups to acid groups affects the resulting viscosity of the macromer formed.

Claim Objections

Claims 1 and 6 are objected to because of the following informalities: the claims are objected to because of extraneous lines in the body of the claims and because the chemical formulas are not clearly printed. Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Blomquist et al (6,496,637, US Publication No. 2002/0122647, divisional US 6,711,336 and US Publication No. 2003/0108326). Blomquist et al '637 disclose compositions comprising fluorinated polymerizable multifunctional (meth)acrylate compounds prepared from the same components as set forth in the instant

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claims and a photoinitiator. See column 3, line 37 to column 4, line 41, column 7, lines 1-22, and Examples 1-5. Blomquist et al teach that compositions comprising macromers having terminal acrylate moieties connected to a fluorinated alkylene or alkylene ether moiety by an ester group form optical components having a refractive index comparable to that of glass fiber waveguides, while also exhibiting very low absorption losses. Specifically Blomquist et al teach providing compositions that exhibit a more favorable range of viscosities and can be polymerized to form a waveguide material exhibiting low light absorption losses and a refractive index closer to the refractive index of a silica optical fiber (column 2, lines 36-48). Comparison of examples 1, 2 and 5 with Examples 3 and 4 shows that the mole ratio of OH groups to acid groups affects the resulting viscosity of the macromer formed. The difference is that Blomquist et al do not specify employing at least 2.5 equivalents of OH groups in the fluorinated polyol for every equivalent of hydroxy-reactive groups in the polycarboxylic acid.

With respect to claim 4, It would have been obvious to one skilled in the art to select fluorinated polymerizable compounds prepared using a mole ratio of fluorinated polyol to acid group-containing monomers corresponding to those disclosed in Examples 1, 2 and 5 of Blomquist et al in order to provide lower viscosity monomers than provided when the mole ratio is reversed, as in Examples 3 and 4. One of ordinary skill in the art at the time of the invention would have recognized that an excess of hydroxyl groups in the polyol are needed to react with an (meth)acrylic acid or (meth)acrylic chloride to provide the acrylate polymerizable groups after reaction with the polycarboxylic acid. Applicant has not provided any comparative evidence of record to show unexpected results are obtained wherein a 2.5 equivalent excess of OH groups in polyol A for each equivalent of hydroxy-reacting group W in B is employed.

With respect to claim 13, Blomquist et al teach combining the monomers with a "suitable photoinitiator" but do not specifically mention employing more than one photoinitiator. However, It would have been obvious to one skilled in the art at the time of the invention to employ one or more than one photoinitiator in the compositions disclosed by Blomquist et al for the following reasons. One of

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ordinary skill in the art at the time of the invention would have been motivated by a reasonable expectation of successfully providing photoinitiation of the disclosed composition using a mixture of photoinitiators because a mixture of photoinitiators would be expected to function in an equivalent manner to a single photoinitiator or to function in a synergistic manner taking advantage of activation with different wavelengths of light, for example. It is considered to be within the ordinary skill of one skilled in the art at the time of the invention to determine the kinds and amounts of photoinitiator or photoinitiators need to polymerize the disclosed acrylate-functional compositions, in the absence of evidence to the contrary. Applicant has not provided any evidence of record to show unexpected results obtained by using a mixture of two different photoinitiators.

Drawings

Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.121(d)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Conclusion

This application contains claims 14-24 drawn to an invention nonelected with traverse in the response to the restriction requirement filed 03-26-2004. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

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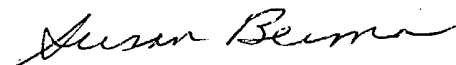
THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Susan W Berman whose telephone number is 571 272 1067. The examiner can normally be reached on M-F 9:30-6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on 571 272 1078. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Susan W Berman
Primary Examiner
Art Unit 1711

SB
01/06/05